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H783: Independent Study

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Taking Care of a Dancing Body:

An investigation of how anatomical knowledge effects a dancer's risk of injury
and performance quality

This study originates from my desire to combine my interest in Physical Therapy and Dance Medicine with my love of dance as a performance art. It began with the realization that movement is often characterized by the gesture limb, but it is the dancers' ability to manipulate their centers that places them at a more advanced level. Movements of the back can be incredibly intricate and dancers that are able to employ it fully often have a better sense of being present in their whole body when they dance. Can this sometimes-mesmerizing presence actually be taught? This study is looking at that question as well as the importance of keeping the spine healthy and injury free. The spine is the powerhouse connected to all movement. As experience is beginning to outweigh youth in the modern dance field, dancers need to be taking care of their bodies in a pro-active manner in order to ensure a long, injury-free career. Also, it is not enough to recognize habits in the studio but also in everyday life, "while injuries may be credited to something you did wrong that day, in reality most injuries are set up by years of inefficient movement" (Franklin 84). I am suggesting that a

general knowledge and awareness of the body is beneficial not only in preventing injury but also in the quality of a dancer's ability to perform.

I. The Back

The lower back is often a site of much pain and injury in the contemporary dancer. I started my investigation by exploring the different structures that comprise this complex area of the body. The spine is divided into four segments with a specific curve associated with each. The cervical spine is the seven vertebrae that make up the neck extending all the way into the base of the skull. The thoracic spine has twelve vertebrae that make up the upper and middle back. The lumbar spine, which I will be mainly talking about, has five vertebrae that make up the lower back. The sacrum and coccyx are two more structures of the spine made up of fused vertebrae and connect the spine to the pelvis. The thoracic and sacral spine areas have kyphosis curves that protrude outward from the back. These are the primary curves of the back and function mostly for stability. The cervical and lumbar spine areas have lordosis curves, which round into the back. These secondary curves are created in infancy when the head is first lifted and the baby first sits up. The lordosis curves function in mobility of the spine. They are also more vulnerable to complications.

Once familiar with the bony anatomy, I turned to the surrounding muscles. The deep back muscles, the spinae erectors, keep the spine erect and aid in back extension, or arching backward. The fibers of these muscles form a complex web encasing and supporting the entire spinal column. The five lumbar

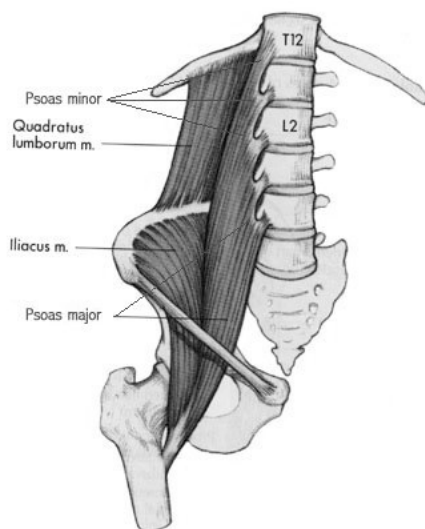
vertebrae have the widest base intended to provide support for the rest of the spine. There are two other important muscles that attach to the lumbar spine: the quadratus lumborum and the iliopsoas. The iliopsoas muscle is comprised of the psoas major, psoas minor, and the iliacus. These are the hip flexors. The psoas major originates on the five lumbar vertebrae and inserts medially on the lesser trochanter of the femur. The longest of the three, it is the only muscle that is able to flex the hip past 90 degrees. The quadratus lumborum attaches from the iliac crest to the transverse processes of the first four lumbar vertebrae to the inferior border of the twelfth rib. It laterally flexes the lumbar spine and prevents the hips from tilting when walking. Antagonists to the spinae erectors are the abdominals. The four layers from deep to superficial are the transverse, internal obliques, external obliques, and rectus abdominis. Together they work to flex, laterally flex, and rotate the spine.



*Image from www.spineuniverse.com



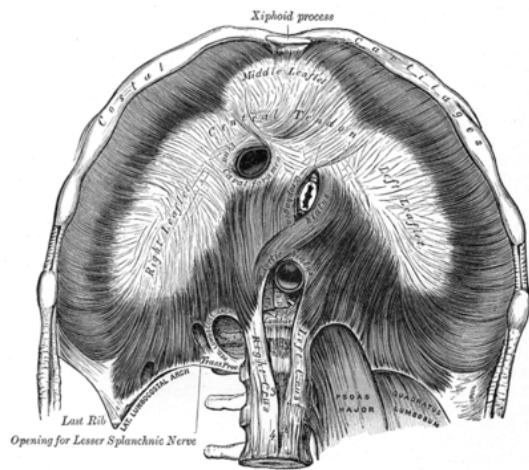
*The erector spinae, the deep back muscles, lie on top of the vertebrae forming a complex web. Sketch courtesy of FCIT (<http://etc.unc.edu>)



*The psoas major with the psoas minor and the iliacus, together insert on the lesser trochanter of the femur making the iliopsoas.

Image from www.somatics.com/psoas.htm

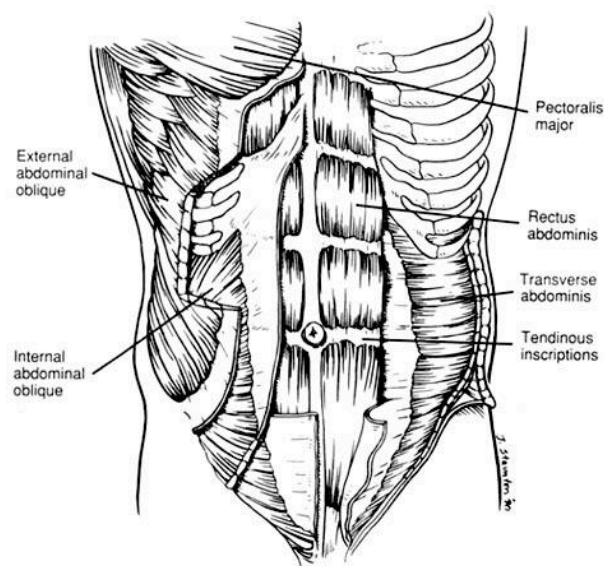
Mabel E. Todd, author of The Thinking Body, noted the effects of breathing in relation to the spine. She says, “...the particular parts of the skeleton and musculature which operate to maintain the spinal curves and to keep the trunk erect are most closely associated with the body and muscular parts involved in breathing” (Todd 10).



*Here is an inferior view of the diaphragm.

It is possible to see the tendons of the muscle attach to the lumbar vertebrae near the psoas major and the quadratus lumborum.

Image from <http://anatomy.med.umich.edu/images/diaphragm.jpg>



*Here the layers of the abdominal

muscles can be seen extending from the sternum to the hips. Photo from
<http://sportsmedicine.about.com/od.abdominalcorestrength1>

A new approach to treating back pain called clinical somatic education involves educating clients about how their muscles function and learning what is causing the muscles to tense by consciously relaxing them. “Clinical somatic education is not education of the thinking mind, but of the brain as master control center for the muscular system. It rapidly improves muscular control and freedom of movement through a training process that involves learning how to control muscles and their movements better” (Gold). Lawrence Gold says that chronic back pain could be due to something called the Landau Reaction. Similar to the body’s “fight or flight” reflex, this reaction prepares the body under stress by tightening the muscles of the spine. Over time the reaction becomes chronic and the brain is unable to properly control the muscles (Gold). Thinking about

these concepts, I believe that in order to prevent back pain from occurring one must have great knowledge of the body, acute awareness of potentially dangerous tension- holding habits, and intricate control over the muscles' actions.

II. **The Warm-up**

Once in the studio, my dancers and myself needed to prepare our bodies to dance. There are many valid ways to warm up the body. In developing a routine exercise, it is important to target areas of the body specifically for what is to follow. In my rehearsals, I emphasized a lot of movement in the back so my warm-up needed to include some major back exercises. I am not claiming this to be the only method that would achieve the desired results. I chose to fuse a combination of different styles including Yoga, Pilates, and modern dance techniques in order to design a comprehensive, straight-forward, symmetrical routine that can be manipulated and extended in complexity as desired. If I wanted to apply this warm-up to a different rehearsal setting I would have to evaluate what my body needed that was different than before.

Knowing the importance of symmetry is key to understanding how many injuries can develop. In some improvisational styles of warming the body, dancers are asked to move in a particular fashion but with their own impulses. The dancer then has the possible tendency to favor one side over another developing muscle imbalances. If these imbalances become severe enough, the body will try to compensate by recruiting other muscles and therefore creating tension. A common muscle imbalance-related injury is the pulled hamstring, most often due to proportionally stronger quadriceps. Some imbalances can even

result from bad alignment. “Dance alignment needs to allow for large movements in space, a feeling of freedom, and a trust in the body’s ability to react to any force created by a balancing counterforce” (Franklin 85). Alignment should be thought of as dynamic rather than static and is not something that should be forgotten about once outside of the studio.

The following exercises are not designed to increase technique but rather prepare the body for a class or rehearsal in which a proper warm-up is not given. Instead of mixing in skill-building exercises dancers should keep the warm-up simple and concentrate solely on breathing and the targeted muscles. Half the benefit comes from the awareness of the purpose of the exercise. Todd brings up the issue of following directions and translating from one body to another. It is important not to just imitate these actions but focus on the sensation. She suggests the following:

When “doing exercises” under instruction we are apt to think that we move or direct the moving of muscles. What actually happens is that we get a picture from the teacher’s words or movements and the appropriate action takes place within our own bodies to reproduce this picture. The result is successful in proportion to our power of interpretation and amount of experience...and the desire to do. (Todd 33)

If one is unsure of the purpose it is most likely not going to be beneficial to her. The dancer should familiarize herself with the routine and should be fully committed to performing the following exercises.

1. Contralateral passes

This exercise was first introduced to me during a Forsythe Master Class. The main principle behind contralateral work is that touching the left side of your body with your right hand wakes up the corpus collosum of the brain, increasing the body halves connection. Movement of the right side of the body is generally directed by the left cerebral hemisphere and vice versa. The corpus collosum is the structure between the hemispheres that allows for their communication. Dance involves integrating an infinite possibility of movements. The more connected the brain is with what the entire body is doing the clearer the movement will be to the dancer and to the viewer.

My take on this exercise alternates touching the right hand to the left ankle and the left hand touching the right ankle eight times. Then repeat with the knees, the hips, the shoulders, and the ears. Take the whole sequence back down the body. The second time coming up the body, touch only once left ankle, right knee, left hip, right shoulder, left ear and coming down- right ear, left shoulder, right hip, left knee, and right ankle. This can be repeated three times.

This initial sequence not only wakes up the awareness to your body but also involves gentle rotation of the spine that contract the deep spinal muscles and the oblique abdominal muscles. This exercise is a great way to begin because it also quickly increases the heart rate. The start of any exercise warm-up should begin with something to get the blood flowing. It is important to get oxygen to the big muscle groups and increase body temperature before you start extensive stretching and/or muscle straining activity.

2. Simple head rolls right and left

Some exercises are best kept at their simplest. As for most of mine, I've chosen to isolate movements in order to target specific muscles and joints. Head rolls will release tension in the muscles of the neck and warm up the cervical spine. Adding the movement of the shoulders begins to gently engage the thoracic spine.

Start with the head only and take four head rolls to the right and four to the left, careful not to let the head collapse against the neck to the back. Think about the chin lifting up instead of the back of the head falling down. Take four more circles right and left allowing the upper back and shoulders to get involved.

3. Release the Trapezius

The trapezius is the huge muscle of the shoulders and upper back and a popular site of holding tension. This results in muscle knots and stiff shoulders. Taking your hands behind your head reach back and grab a hold of the trapezius and look up at the ceiling, hold for about 20 seconds, then release pulling forward and you let your hands drop. Next apply pressure using the first three fingers of your right hand on the top of your left shoulder near the base of your neck. Lift your left arm to the side. You should feel the trapezius engage. Repeat finding different parts of the muscle body to touch and then do the same for the other side. Relaxing this top half of the trapezius should increase shoulder ease of motion and range of movement.

4. Shoulder and rib isolations

This is a simple way to loosen the shoulder joints and work the muscles such as the trapezius and ease into engaging the muscles of the back and stomach. Roll the shoulders back four times and forward four times. Then alternate the shoulders including rib circles to the left. Repeat to the right.

5. Deep breaths touching the kidneys

This is an exercise from Franklin's Conditioning for Dance. Its purpose is to help with tension in the lower back as well as bring awareness to kidney, diaphragm, back and abdominal connections. "Touching and moving the kidneys is helpful for releasing lower back tension and increasing flexibility of the spine, especially for rotations. Breathing and kidneys are related. When you inhale the kidneys move down an inch or two with the diaphragm, when you exhale they move up again" (Franklin, 81).

Stand tall and place your hands on your back over your kidneys. Visualizing the diaphragm contracting and releasing take four deep breaths feeling the kidneys' subtle shift just below the ribcage. Let your arms drop and note the difference in the spinal muscles.

6. Lunge series

This I modified from the Horton technique. It stretches the following muscles:

Hip flexors-iliopsoas and rectus femoris

The hamstrings- biceps femoris, semimembranosus and semitendinosus

The calves- gastrocnemius and soleus

The quadriceps- the rectus femoris, and the vastus lateralis, medialis, and intermedialis

Inner thighs muscles- gracilis, adductor magnus, adductor longus, adductor brevis, and the sartorius

the rotators- the sartorius, the piriformis, the gluteus maximus

It also warms the talocrural ankle joint, and the achilles tendon.

Lunge down with the left foot in front. The back leg should be straight and parallel in the hip socket. The front leg should be just slightly turned out with the knee perpendicular to the floor. You should feel the stretch in the front of your hip, those are the hip flexors. Straighten the front leg and relax your torso over your thigh and concentrate on keeping the back heel on the ground, this is stretching the front leg's hamstrings and the back leg's calves. Return to the lunge putting your elbows on the inside of the front leg to increase the stretch on the hip flexors. Gently lower your back knee and without applying pressure to the patella. Flex your knee and reach back with the left hand and grab your foot. Let the front of your thigh relax to stretch the quadriceps. Return to the lunge after gently lowering your leg and open up to a side-lunge. Alternate side lunges activating the inner thighs and rotators. Stop on the opposite side and repeat the series.

7. Sun Salutations

Modified from Yoga, this brings some breath back into your movement, continues to stretch the hamstrings as well as the back, feet, shoulders, arms, hands. From the lunge series, push back into a Downward Dog. In this position

make sure you are not collapsing into your lower back. There should be even weight on both hands and even weight on both feet. The legs are straight, heels reaching into the floor. Arms push into the floor, the scapula glide down your back. The coccyx, or tailbone, reaches toward the ceiling. Tread the feet to increase the stretch of the calves and Achilles. Rise onto the balls of the feet and roll through the back into a plank position. Do two push-ups keeping the elbows close to your sides. From the bottom of the third rep, push up into upward dog. Support through the abdominals to prevent collapse in the lower back. Visualize the vertebrae of your back and imagine your flexibility in the joints increasing. Push back into downward dog and repeat cycle three times.

Bring the left leg forward into the pigeon and relax completely over your leg. Your right leg should be straight and parallel behind you. Your left leg should be bent and turned out in front of you, the lower leg as close to perpendicular to you as possible. This will stretch your rotators especially the gluteus maximus. Switch legs. Press back into child's pose letting your hip flexors relax. Breathe into the lower back. On each exhale imagine any tension melting away.

8. Abdominal Work

These exercises will get blood to the abdominals, and strengthens the core muscles. A strong core is essential to preventing lower back pain because it balances antagonistic muscles of flexion and extension of the spine, as well as the synergists of spinal rotation.

Roll over onto your back and start with the hundreds. Straight from Pilates technique, be sure to maintain a neutral spine. Lift legs to a 90 to 45 degree angle

with the floor. The lower your legs can be while still maintaining proper alignment the harder your core will work. Flex your torso until your shoulders are off the floor in order to engage the abdominal muscles. This position is maintained throughout the exercise. In the Pilates technique, you breathe in through the nose and out through the mouth. Arms should be straight by your side and pumping in time with the breaths. Do five short breaths in and five short breaths for ten repetitions.

Single leg stretch:

Lift your shoulders off the ground by contracting the abdominals and try to keep the neck, jaw and tongue as relaxed as possible. Make sure not to crunch your neck forward, you should have enough room between your chin and your chest to hold a tennis ball. Hold your right knee to your chest and lift your left leg straight off the ground a few inches. On your exhale switch legs. Inhale and switch. Repeat 8 times. Lower the shoulders and relax.

Scissors:

Lift your shoulders off the ground by contracting the abdominals as you bring your right leg, straight to at least a 90-degree angle. Hold on to the upper calf. Lift a straight left leg a few inches off the ground. On the exhale, switch legs keeping them straight. Repeat 8 times. Lower the shoulders and relax.

Double leg stretch:

Lift your shoulders off the ground by contracting the abdominals as you bring both knees into your chest. As you exhale, extend both legs straight as low as possible without disturbing your spinal alignment and reach long arms up and

over your head. Keep your shoulders off the ground and stomach muscles engaged. Inhale bringing your knees back to your chest. Arms come down along your frontal plane back to the knees. Repeat 4 times. Lower the shoulders and relax.

End with simple Roll-ups:

Start on your back with arms by your sides, knees bent and feet flat on the floor. Exhale and roll your spine up off the floor, one vertebra at a time reaching your arms forward until you are in a seated position. Inhale and reverse the action. Repeat this 4 times at a much slower tempo. Afterwards, make sure you roll over to stretch out the stomach muscles to help prevent unnecessary tightness.

9. Plough

The plough is a Yoga inverted position. It is an excellent way to get a deep stretch in the lower back muscles and helps quiet the brain. Lie on your back and slowly bring both legs straight off the floor towards your head. At some point past 90 degrees gently allow the weight of your legs moving backward to lift your hips off the ground. Keep thinking about bringing your toes to the wall behind you until your weight is shared across your shoulders. Let your feet lower above your head so the balls of your feet plant into the floor. You can place your hands on your lower back for support or take them above your head for a deeper stretch.

Press your heels backward to feel a deep stretch all the way down the back of your legs. Gently plie' and relax your lower back. You can also shift your legs about 30 degrees to either side to stretch the deep back muscles of each side

separately. Keep breathing and consciously relax the back of your neck with each exhale. Lower the legs slowly using the deep abdominal muscles for control.

10. Simple Spirals

Stand up and begin shifting weight from one foot to the other. Swing the arms and spiral the back. This will help increase the heart rate again and engage the abdominal and back muscles. The small weight changes help to warm up the feet.

11. Big Weight Shifts

This is an improvisation to challenge the balance of the dancer and test the limits of remaining on one leg and negotiating the shifts of weight. Switch right and left sides three times.

12. Small Jumps

These should go from bounces to jumps leaving the floor to warm up the muscles of the lower leg, the Achilles tendon, hamstrings, and quadriceps to prepare for any large jumps.

13. Individual Stretches

This is provided to get out any additional kinks in the body. It is for the individual to take a couple minutes to evaluate their bodies and do any additional stretches or exercises that they need on that particular day.

III. **The Dance**

As a part of my investigation of the movement of the spine, I created a movement phrase to teach the dancers that worked with me in this process. The phrase was created with extra concentration on the movement of the back

exploring the different methods of flexion, extension, rotation and isolation, as well as different initiations of movement of the spine. My goal with the phrase was to gain insight on how information about the physical structure of the spine influenced how the dancers perceived and performed the movement. Todd found this information important to the performance of the dancer saying, “To attain conscious control of the structural balance of the human body, we must know its component parts, their relationships, and the forces acting upon and within them. We must understand its materials and their functions and behavior” (Todd 23). The use of breath also became an interesting issue with the phrase.

As I created a structured improvisational score for the dancers to work off of, the breath of the movement eventually began to influence speed and quality of movement. Because the ligaments of the diaphragm are connected to the axial skeleton on the lumbar spine, the timing and quality of breath greatly affects the mobility of the back. As the dancers got more familiar with the phrase, the quality of the movement became clearer in their bodies and finer details and idiosyncratic motions were more noticeable. The dancers were then able to feel more comfortable to take risks and try new approaches.

The phrase became the backbone of the improvisational dance. It was performed thrice with the dancers’ choice of timing, and an assortment of short insertions. Only one moment in the middle was actually set. The rehearsal process was more of an investigation of the development of the movement rather than me taking choreographic control. Instead of telling the dancers to do it differently I would bring to their attention what I saw, what I found interesting,

what worked in the space, and new viewpoints for them to try. Pauses were the hardest for the dancers to add in organically. Todd mentions in *The Thinking Body*:

Walking...is easier and less fatiguing than standing. Since the process of losing our balance and quickly recovering it causes less strain than the effort to keep our very flexible delicately poised mechanism in one position. In standing... we must impose our wills upon our bodies since the attempt to stand still is not “natural” and must be consciously directed. (Todd 37)

The dancers must be consciously making decisions and their intentions must be clear in their own minds in order for it to translate to the viewer. They have to breathe through moments of stillness to maintain this connection.

Each time we ran the piece it was significantly different depending on how the dancers were feeling that day. I wanted to keep it improvisational for a few particular reasons. There is a level of “authenticity” that is more easily achievable through improvisation because of the constant decision making. The movement was all there for them, that was not being changed, but the quality of movement was not set and it was easily affected by state of mind. Their constant attention to the group, timing, insertions, and the sensation of the movement was a struggle for them at first. The fullness of the movement was affected but, like most dance pieces, it became easier with practice.

It was also important for me to keep the process as stress-free as possible. Since we are peers, I did not intimidate the dancers, but I wanted to be sure to

create a positive environment. The body has a way of absorbing tension and “muscle spindles are influenced by your level of stress, your state of mind greatly influences your muscle coordination. The more you worry about your technique and ability to perform a step, the more your spindles are in a state of oversensitivity, causing opposing muscle groups to restrict each others movement” (Franklin 35). In the end, I think the dancers had fun with the movement and I hope they carry on these ideas to other projects in the future. These are concepts that can be developed throughout one’s entire career, because being present is something that takes full conscious thought.

IV. The Cool-down

Depending on what muscles were most active during exercise, those areas should be stretched out directly following the workout. After exercise, dancers should not become completely inactive. This shocks the muscles to suddenly not be in use, and causes them to tighten up resulting in unnecessary soreness the following day. Of course some soreness should be expected in muscle development but excessive soreness can lead to pulled muscles which can be prevented by ending a rehearsal properly. Here is a sample cool-down series to help the body slow down and let it know you are ending your workout.

1. Start with small jumps in place gradually letting them get smaller until you are eventually still.
2. Take a few deep breaths with your hands on your kidneys to help release the lower back. Remember to keep breathing and focus on the muscles that you are targeting and where there is tension in the following stretches.

3. Roll down and hang over to stretch out the hamstrings and large back muscles.
4. Step into a wide lunge to stretch the iliopsoas to prevent the hip flexors from tightening which can cause posterior tilt of the pelvis and lower back pain.
5. Twist and sit cross-legged in the double pigeon to stretch out the rotators and gluteal muscles. Hold each position for at least thirty seconds. Switch legs.
6. Stretch out the quadriceps by sitting and folding one leg under you to the side with the other bent, in front of you and relaxed. Be careful not to put pressure on the front of your knee. Turn the leg that you are stretching in so that it is parallel to the ground and the top of the foot is on the floor. Hold for at least thirty seconds. Switch legs.
7. Lay on your back and hold your knees to your chest. Focus on relaxing the front of the hips and stretching the muscles of the lower back. Hold for at least thirty seconds.
8. Gently come to standing and take a short walk around the room rolling the head and shoulders.

Before going to sleep it can also be helpful to put your legs up against a wall for ten minutes to release the hips and lower back.

V. **Analysis**

I am simply curious about the body and the many ways in which it can be trained and used as an artistic vessel. I am concerned that the movement in which I am interested can be dangerous to the dancer's body and want a means to protect it from injury.

This project was purely an investigation. It proposes many ideas that should be researched further. Because I was unable to set up a controlled situation for myself and the dancers I worked with in this process, this was not a true experiment. Therefore, I cannot, with any certainty, declare that any of my dancers' actions and changes in movement quality was the result of my process with them. I do believe I was able to balance the athletic movement with a safe environment in the rehearsals. The dancers did not feel as though they were at risk of injury but were still able to take risks with the material. In that way, I feel successful. However, I realize that what I saw as progress in the dancers in terms of performance quality is subjective. I coached them with ideas of breath-guiding movement, dancing on a "cellular level", and eliminating any so-called "transitional" steps, but it was all in the context of this specific score. I am interested to see if they will continue thinking about these ideas in technique class, their next repertory experiences, or their own choreography.

Rehearsal processes can be extremely dangerous if the dancers do not have full awareness of their bodies' capabilities. If a class is not given before rehearsing, it is up to the dancer to become warm. And the choreographer, who often does not know exactly what he or she wants, will be asking the dancers to try new things, experiment, and take chances. It is inevitable that the choreographer will favor one side over the other and choreography is almost never symmetrical. This forces the dancers to repeat movements on one side multiple times and causes the risk of developing muscle imbalances. I can only suggest that when the dancers feel this is happening to switch to practicing the

opposite side on their own time. This might even give the dancers more information about the choreography as well as prevent an injury in the future.

There is also the challenge of applying static flexibility to dynamic flexibility. Employing full potential range of motion requires great strength. The exercises presented do not promote muscle growth as much as increasing range of motion. Therefore, they must be supplemented with active technical exercises in order to obtain the optimal results. Part of this is making sure the dancer is working with proper alignment at all times. “Optimal flexibility is a product of good alignment and the resulting muscular balance. Good alignment reduces the stress placed on muscles and increases elasticity, [whereas] faulty alignment puts too much weight on the musculature increasing tension, and reducing flexibility” (Franklin 51). The dancer who is overly ambitious and does not listen to the body is more at risk of injury. My hypothesis is that these dancers have less of a body-mind connection making their movement seem less engaging to the viewer.

I realize there is no miracle solution. A true sign of a good dancer is intelligence. I encourage anyone who wants to continue dancing for many years to investigate and take initiative to learn about the anatomy and kinesiology of the human body and to take the time to listen to what the body needs in order to serve one well. The body is the dancers’ canvas, their artistic medium. Shouldn’t it be their priority to keep it in good health?

Dancer Questionnaire

1. Give a brief description of your dance background.

Ballet, pointe, modern, jazz, some tap, hip-hop, some traditional Indian dancing, some African. Started dancing at age 4.

2. Have you had any serious injuries? Have they affected the way you move or think about movement?

Yes. I had Achilles tendinitis and shin splints, these helped me learn how to jump and run properly. I also suffered from a lower back injury. I couldn't dance for a month and it took me awhile to work it back to its normal range. I injured my back while performing a lateral incorrectly during a Horton class. It defi[nite]ly taught me the value of the back. It hinders you in so many ways if you back in injured. Even the simple act of lifting from my center while performing tendus would irritate it.

3. Have you ever taken a course in somatics, anatomy, physiology, or kinesiology? If so, how long ago?

Anatomy winter quarter 08, kinesiology summer quarter 07.

4. Is the warm-up given at the beginning of rehearsals helpful? Does it prepare you for the phrase work?

Yes it is very helpful. Maybe something more as far as working through the feet.

5. Have you been abnormally sore or suffered any injuries due to these practices?

No.

6. What are you thinking about predominantly while you are dancing in this particular work? (i.e. sequence, breath, timing, spatial relationships, physicality, specific parts of the body...)

I'm usually thinking about spatial relationships and breathing. I'm also thinking of the back. After you told us that the back is what you were thinking about while creating it, I consciously think about it as well while I am dancing the work.

7. What, if anything, has this process taught you about your dancing or your body?

This process has been great. I've explored the movement and loved the freedom that is given to us as dancers. It really makes you use your creativity and thought while dancing. It forces you to think on your feet.

8. Any other comments, questions, concerns, suggestions?!?

I love you. Just let me know if you want me to expand on any of these ideas. And are we going to be allowed to read your paper when you're done? Because I would love to. Good luck!

Dancer Questionnaire

1. Give a brief description of your dance background.

Trained at a local modern based dance studio in Athens Ohio, Factory Street Studio and Moving Parts for 14 years in modern, tap and choreography. Attended summer dance festivals including the American Dance Festival young dancers program and adult program, Bates Dance Festival young dancers and adult program and BalletMet young dancers workshop. I am currently pursuing a dance majors at The Ohio State University.

2. Have you had any serious injuries? Have they affected the way you move or think about movement?

No- I have never had any serious injuries.

3. Have you ever taken a course in somatics, anatomy, physiology, or kinesiology? If so, how long ago?

I have taken one quarter of Pilates at OSU, a quarter of kinesiology and a quarter of yoga as well as my own supplementary yoga practices.

4. Is the warm-up given at the beginning of rehearsals helpful? Does it prepare you for the phrase work?

Yes- I find it very helpful- a thorough warm up is always appreciated to prepare for phrase work or any kind of movement material.

5. Have you been abnormally sore or suffered any injuries due to these practices?

No-

6. What are you thinking about predominantly while you are dancing in this particular work? (i.e. sequence, breath, timing, spatial relationships, physicality, specific parts of the body...)

I find myself thinking about sequence and initiation. What comes next and where the movement begins in the body. I'm also very aware of timing of both my movement and the other dancers as well as how we spatially relate. This has been really fun to play with and vary in every run of the material.

7. What, if anything, has this process taught you about your dancing or your body?

The importance of taking care of your body before jumping into big dance movement as well as the beauty of spontaneous choices with set material.

8. Any other comments, questions, concerns, suggestions?!?

Thanks for including me in this process Sarah- it's been really great working with you!

Dancer Questionnaire

1. Give a brief description of your dance background.

Started dancing at age five and continued through out high school with jazz, modern, pointe, and jazz. I am currently majoring in dance at OSU with a minor in integrative health and wellness.

2. Have you had any serious injuries? Have they affected the way you move or think about movement?

Yes, I pulled my piriformis last spring and had a bulging disk in my L5. It definitely affected the way I moved. I could not dance at all over the summer or the beginning of this year and had to attend physical therapy.

3. Have you ever taken a course in somatics, anatomy, physiology, or kinesiology? If so, how long ago?

Yes, I took somatics this fall quarter and it definitely helped me view the way I dance.

4. Is the warm-up given at the beginning of rehearsals helpful? Does it prepare you for the phrase work?

Of course, I think it is so important to have a warm up for dancers before rehearsal because that is how I got injured.

5. Have you been abnormally sore or suffered any injuries due to these practices?

No

6. What are you thinking about predominantly while you are dancing in this particular work? (i.e. sequence, breath, timing, spatial relationships, physicality, specific parts of the body...)

I am thinking about timing and my breath most of the time. This piece is so much fun to do because it is constantly changing and you can change to fit your needs and wants with your body or even compositional.

7. What, if anything, has this process taught you about your dancing or your body?

It has taught me to really warm up before rehearsals and take care of my body. And not only just warm up but to really listen to what my body needs in terms of preparing to dance.

8. Any other comments, questions, concerns, suggestions?!

I LOVE SARAH LEHMAN!

Dancer Questionnaire

1. Give a brief description of your dance background.

I have been dancing at South Dayton School of Dance since I was three. I have attended summer programs at places such as Dayton Contemporary Dance Company, Joffrey Ballet, and Central Pennsylvania Youth Ballet.

2. Have you had any serious injuries? Have they affected the way you move or think about movement?

I am currently nursing a stress fracture in the ball of my foot. It has really made me think about how I distribute my weight when doing things such as landing from jumps and balancing on one foot. I have been sitting out of class for a few weeks because of my injury, and I think that it was actually very beneficial to watch my classmates. I have tried to watch at how other dancers use their weight, and how this affects the ease, or lack of, in transitioning from step to step.

3. Have you ever taken a course in somatics, anatomy, physiology, or kinesiology? If so, how long ago?

No

4. Is the warm-up given at the beginning of rehearsals helpful? Does it prepare you for the phrase work?

I found the warm up very helpful. The first rehearsal that we had we just warmed ourselves up and my back was definitely sore afterwards. In all of the other rehearsals we did your set warm up and it really prepared my body for your choreography, specifically all of the back movement.

5. Have you been abnormally sore or suffered any injuries due to these practices?

The only time I was abnormally sore was after the first rehearsal, as I mentioned above, and when I did rehearsal after not dancing for 3 weeks. In second case I definitely expected to be sore since I really hadn't moved in so long. I found though that the movement goes well with my injury because there really are no balances or large jumps involving the right foot.

6. What are you thinking about predominantly while you are dancing in this particular work? (i.e. sequence, breath, timing, spatial relationships, physicality, specific parts of the body...)

I feel like I try to think about all of these things, especially since so many aspects of the dance are improved. I spend a lot of time thinking about timing and spatial relationships since it is so open and there is so much to play with. The last rehearsal we ran we really worked on breath and it seemed like when we all took our time and actually breathed while we were dancing the timing and spatial relationships happened much more naturally. Recently I also spend a lot of time making sure I don't put too much pressure on my right foot just to keep my injury from worsening.

7. What, if anything, has this process taught you about your dancing or your body?

I have never done a piece that has no specific places or timing, so I really enjoyed that aspect of it. I think also seeing how much of a difference it makes when you really incorporate breath has made me think a lot about dancing and how it affects my body. The movement comes much more naturally and I don't seem to carry as much tension in my body.

8. Any other comments, questions, concerns, suggestions?!?

I really enjoyed working with you all quarter, and I'm sorry it took so long to get this to you!

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